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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,303	10/29/2001	James H. Stephens JR.	021556.0135	1293

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EXAMINER

SHAW, PELING ANDY

ART UNIT PAPER NUMBER

2144

DATE MAILED: 09/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/045,303

Applicant(s)

STEPHENS, JAMES H.

Examiner

Peling A. Shaw

Art Unit

2144

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/29/2001</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. This application has no priority claim made. The filing date is 10/29/2001.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 4-6, 11-14, 16 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Natarajan et al. (US 6505244 B1), hereinafter referred as Natarajan.

- a. Regarding claim 1, Natarajan disclosed a method for modeling video network reliability (column 2, line 15-22; column 29, line 37-column 30, line 33), the method comprising: obtaining historical data for multiple video conferences (Fig. 17, item 1706, 1722); executing a modeling algorithm that produces a model representing the historical data (Fig. 17, item 1718 and 1720); analyzing the model to identify characteristics associated with undesirable outcomes for the video conferences (Fig. 17, item 1720, 1724, 1726, 1728); and configuring a video network to avoid at least one of the identified characteristics associated with undesirable outcomes (Fig. 17, item 1708, 1710, 1712, 1714).

- b. Regarding claim 2, Natarajan disclosed the method of claim 1, wherein the operation of executing a modeling algorithm that produces a model comprises executing a decision tree algorithm (column 14, line 5-50; column 15, line 1-37).
- c. Regarding claim 4, Natarajan disclosed the method of claim 1, further comprising conducting a new video conference with the video network configured to avoid at least one of the identified characteristics associated with undesirable outcomes (Fig. 17, item 1720, 1724, 1726, 1728).
- d. Regarding claim 5, Natarajan disclosed the method of claim 4, further comprising: updating the historical data to create new historical data that includes values representing characteristics of the new video conference (Fig. 17, item 1706, 1722); executing the modeling algorithm to produce a new model representing the new historical data (Fig. 17, item 1718 and 1720); analyzing the new model to produce a result (Fig. 17, item 1720, 1724, 1726, 1728); and reconfiguring the video network according to the result (Fig. 17, item 1708, 1710, 1712, 1714).
- e. Regarding claim 6, Natarajan disclosed the method of claim 1, further comprising: evaluating the model to determine whether the model provides a desired level of efficacy (Fig. 17, item 1720, 1724, 1726, 1728); and in response to determining that the model does not provide a desired level of efficacy, using a different modeling algorithm to produce a different model (Fig. 17, item 1720, 1724, 1726, 1728).
- f. Regarding claim 11, Natarajan disclosed a program product for modeling video network reliability (column 2, line 15-43), the program product comprising: a computer-usable medium; and computer instructions encoded in the computer-usable

medium, wherein the computer instructions, when executed, cause a data processing system to perform operations comprising: obtaining historical data for multiple video conferences (Fig. 17, item 1706, 1722); and executing a modeling algorithm that produces a model representing the historical data, such that the model can be analyzed to identify one or more opportunities for improving reliability of a video network (Fig. 17, item 1718, 1720, 1724, 1726 and 1728).

- g. Regarding claim 12, Natarajan disclosed the program product of claim 11, wherein the computer instructions cause the data processing system to perform further operations comprising: outputting results that reveal at least one of the opportunities for improving reliability of the video network, such that a user can reconfigure the video network, based on the results, to improve reliability of the video network (Fig. 17, item 1708, 1710, 1712, 1714, 1718, 1720, 1724, 1726 and 1728).
- h. Regarding claim 13, Natarajan disclosed the program product of claim 11, wherein the computer instructions cause the data processing system to perform further operations comprising: analyzing the model to identify the one or more opportunities for improving reliability of the video network (Fig. 17, item 1720, 1724, 1726, 1728); and automatically reconfiguring the video network, based on the identified opportunities, to improve reliability of the video network (Fig. 17, item 1708, 1710, 1712, 1714).
- i. Regarding claim 14, Natarajan disclosed the program product of claim 11, wherein: the operation of executing a modeling algorithm that produces a model comprises executing a decision tree algorithm (column 14, line 5-50; column 15, line 1-37).

- j. Regarding claim 16, Natarajan disclosed the program product of claim 11, wherein the computer instructions cause the data processing system to perform further operations comprising: updating the historical data to create new historical data that includes values representing characteristics of a new video conference (Fig. 17, item 1706, 1722); executing the modeling algorithm to produce a new model representing the new historical data (Fig. 17, item 1718 and 1720); analyzing the new model to produce a result (Fig. 17, item 1720, 1724, 1726, 1728); and reconfiguring the video network according to the result to improve reliability of the video network (Fig. 17, item 1708, 1710, 1712, 1714).
- k. Regarding claim 20, Natarajan disclosed a data processing system for modeling video network reliability (column 2, line 15-43), the data processing system comprising: one or more processing units; a computer-usable medium in communication with the one or more processing units; and computer instructions encoded in the computer-usable medium which, when executed by the one or more processing units, cause the data processing system to perform operations comprising: obtaining historical data for multiple video conferences (Fig. 17, item 1706, 1722); and executing a modeling algorithm that produces a model representing the historical data, such that the model can be analyzed to identify one or more opportunities for improving reliability of a video network (Fig. 17, item 1718, 1720, 1724, 1726 and 1728)

Natarajan disclosed all limitations of claims 1-2, 4-6, 11-14, 16 and 20. Claims 1-2, 4-6, 11-14, 16 and 20 are rejected under 35 U.S.C. 102(e).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Natarajan et al. (US 6505244 B1), hereinafter referred as Natarajan as applied to claims 1 and 2, and further in view of Evans (US 5694524 A), hereinafter referred as Evans and Yates et al. (US 6330586 B1), hereinafter referred as Yates.

- a. Natarajan shows (claim 1) a method for modeling video network reliability (column 2, line 15-22; column 29, line 37-column 30, line 33), the method comprising:
obtaining historical data for multiple video conferences (Fig. 17, item 1706, 1722);
executing a modeling algorithm that produces a model representing the historical data (Fig. 17, item 1718 and 1720); analyzing the model to identify characteristics associated with undesirable outcomes for the video conferences (Fig. 17, item 1720, 1724, 1726, 1728); and configuring a video network to avoid at least one of the identified characteristics associated with undesirable outcomes (Fig. 17, item 1708, 1710, 1712, 1714); (claim 2) wherein the operation of executing a modeling algorithm that produces a model comprises executing a decision tree algorithm (column 14, line 5-50; column 15, line 1-37). Natarajan does not show (claim 3) wherein the operation of executing a decision tree algorithm comprises executing an

ID3-based algorithm; (claim 7) wherein: the method further comprises building a training set from the historical data; the operation of executing the modeling algorithm comprises applying the modeling algorithm to the training set; and the operation of analyzing the model comprises: deriving a rule set from the model; and analyzing the rule set to identify the characteristics associated with undesirable outcomes for the video conferences.

- b. Evans shows (claim 3) wherein the operation of executing a decision tree algorithm comprises executing an ID3-based algorithm (column 9, line 12-19); (claim 7) wherein: the method further comprises building a training set from the historical data (column 1, line 51-column 2, line 13; column 2, line 42-58); the operation of executing the modeling algorithm comprises applying the modeling algorithm to the training set (column 1, line 51-column 2, line 13; column 2, line 42-58); and the operation of analyzing the model comprises: deriving a rule set from the model (column 1, line 51-column 2, line 13; column 2, line 42-58); and analyzing the rule set to identify the characteristics associated with undesirable outcomes for the video conferences (column 1, line 51-column 2, line 58) in an analogous art for the purpose of system and method for identifying conditions leading to a particular result in a multi-variant system.
- c. Nether neither Natarajan nor Evans shows (claim 9) the specification of multiple vendors in collecting and processing video conference service performance data.
- d. Yates shows (claim 9) the specification of multiple vendors in collecting and processing video conference service performance data (column 5, line 67-column 6,

line 12) in an analogous art for the purpose of reconfigurable service provision via a communication network.

- e. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Natarajan's functions of policy engine which supports application specific plug-ins for enforcing policies in a feedback-based, adaptive data network with Evans' functions of using decision tree and training data set, particularly ID3 extension C4.5 algorithm, Yates's functions of identifying a particular result in a multi-variant system, and with specifying vendor consideration in the network performance data collection.
- f. The modification would have been obvious because one of ordinary skill in the art would have been motivated to be able to use decision tree algorithm per Natarajan's teaching and training data set in analyzing video conference performance, particularly ID3 and its extension per Evans' teaching, and to include multiple vendor consideration in specifying network performance data set per Yates's teaching.
- g. Regarding claim 8, Natarajan shows wherein: the historical data includes attribute values for attributes of each video conference and an outcome value representing an outcome for each video conference (column 2, line 15-22; column 29, line 37-column 30, line 33); and the operation of applying the modeling algorithm to the training set comprises: using the outcome values as categorical attributes for the modeling algorithm (column 2, line 15-22; column 29, line 37-column 30, line 33); and using the attribute values as non-categorical attributes for the modeling algorithm (column 2, line 15-22; column 29, line 37-column 30, line 33).

- h. Regarding claim 10, Natarajan shows wherein: the training set includes values representing a first set of attributes (Fig. 17, item 1706, 1722); and the method further comprises: evaluating the model to determine whether the model provides a desired level of efficacy (Fig. 17, item 1720, 1724, 1726, 1728); in response to determining that the model does not provide a desired level of efficacy, building a different training set that includes a different set of attributes (Fig. 17, item 1720, 1724, 1726, 1728); and applying the modeling algorithm to the different training set to produce a different model (Fig. 17, item 1708, 1710, 1712, 1714).

Together Natarajan, Evans and Yates disclosed all limitations of claims 3 and 7-10. Claims 3 and 7-10 are rejected under 35 U.S.C. 103(a).

- 4. Claims 15 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Natarajan et al. (US 6505244 B1), hereinafter referred as Natarajan as applied to claim 11, and further in view of Evans (US 5694524 A), hereinafter referred as Evans and Yates et al. (US 6330586 B1), hereinafter referred as Yates.

- a. Natarajan shows (claim 11) a program product for modeling video network reliability (column 2, line 15-43), the program product comprising: a computer-usable medium; and computer instructions encoded in the computer-usable medium, wherein the computer instructions, when executed, cause a data processing system to perform operations comprising: obtaining historical data for multiple video conferences (Fig. 17, item 1706, 1722); and executing a modeling algorithm that produces a model representing the historical data, such that the model can be analyzed to identify one or more opportunities for improving reliability of a video network (Fig. 17, item 1718,

1720, 1724, 1726 and 1728). Natarajan does not show (claim 15) wherein: the operation of executing the decision tree algorithm comprises executing an ID3-based algorithm; (claim 17) wherein the computer instructions cause the data processing system to perform further operations comprising: building a training set from the historical data; executing the modeling algorithm by applying the modeling algorithm to the training set; and deriving a rule set from the model, such that the one or more opportunities for improving reliability of a video network can be identified by reference to the rule set.

- b. Evans shows (claim 15) wherein: the operation of executing the decision tree algorithm comprises executing an ID3-based algorithm (column 9, line 12-19); (claim 17) wherein the computer instructions cause the data processing system to perform further operations comprising: building a training set from the historical data (column 1, line 51-column 2, line 13; column 2, line 42-58); executing the modeling algorithm by applying the modeling algorithm to the training set (column 1, line 51-column 2, line 13; column 2, line 42-58); and deriving a rule set from the model, such that the one or more opportunities for improving reliability of a video network can be identified by reference to the rule set (column 1, line 51-column 2, line 58) in an analogous art for the purpose of system and method for identifying conditions leading to a particular result in a multi-variant system.
- c. Neither Natarajan nor Evans shows (claim 19) the specification of multiple vendors in collecting and processing video conference service performance data.

- d. Yates shows (claim 19) the specification of multiple vendors in collecting and processing video conference service performance data (column 5, line 67-column 6, line 12) in an analogous art for the purpose of reconfigurable service provision via a communication network.
- e. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Natarajan's functions of policy engine which supports application specific plug-ins for enforcing policies in a feedback-based, adaptive data network with Evans' functions of using decision tree and training data set, particularly ID3 extension C4.5 algorithm, Yates's functions of identifying a particular result in a multi-variant system, and with specifying vendor consideration in the network performance data collection.
- f. The modification would have been obvious because one of ordinary skill in the art would have been motivated to be able to use decision tree algorithm per Natarajan's teaching and training data set in analyzing video conference performance, particularly ID3 and its extension per Evans' teaching, and to include multiple vendor consideration in specifying network performance data set per Yates's teaching.
- g. Regarding claim 18, Natarajan shows wherein: the historical data includes attribute values for attributes of each video conference and an outcome value representing an outcome for each video conference (column 2, line 15-22; column 29, line 37-column 30, line 33); the modeling algorithm uses the outcome values as categorical attributes (column 2, line 15-22; column 29, line 37-column 30, line 33); and the modeling

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algorithm uses the attribute values as non-categorical attributes (column 2, line 15-22;
column 29, line 37-column 30, line 33).

Together Natarajan, Evans and Yates disclosed all limitations of claims 15 and 17-19. Claims
15 and 17-19 are rejected under 35 U.S.C. 103(a).

Remarks

5. The following pertaining arts are discovered and not used in this office action. Office reserves the right to use these arts in later actions.

- a. Hales et al. (US 6288739 B1) Distributed video communications system
- b. Grabelsky et al. (US 6678250 B1) Method and system for monitoring and management of the performance of real-time networks

Conclusion


6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Refer to the enclosed PTO-892 for details.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peling A. Shaw whose telephone number is (571) 272-7968. The examiner can normally be reached on M-F 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

pas


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